

Anode Half-Cell Reaction: $CH_3OH + H_2O$

$\longrightarrow CO_2 + 6H^+ + 6e^-$

Cathode Half-Cell Reaction: $O_2 + 4H^+ + 4e^-$

$\longrightarrow 2H_2O$

Overall Cell Reaction: $CH_3OH + 1.5 O_2$

$\longrightarrow CO_2 + 2H_2O$

FIG. 1

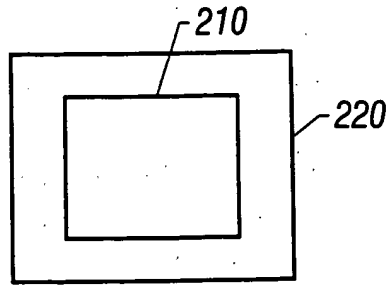


FIG. 2A

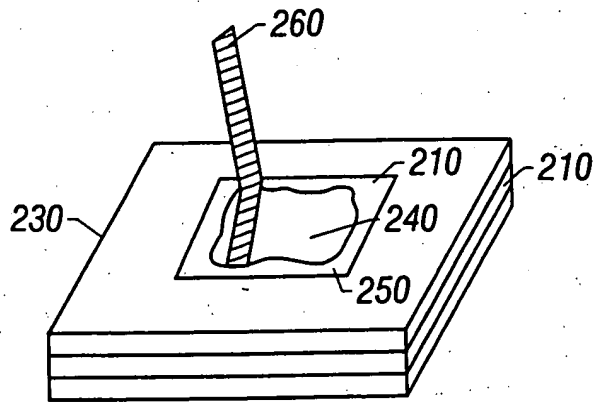


FIG. 2B

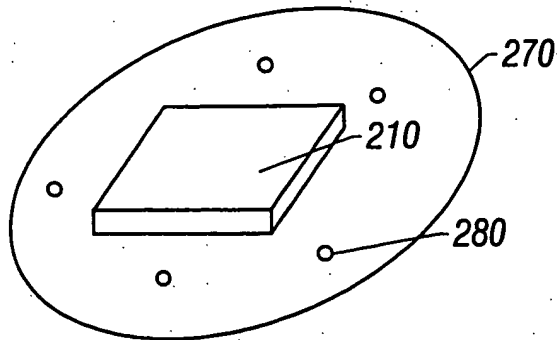


FIG. 2C

100260-139EE660

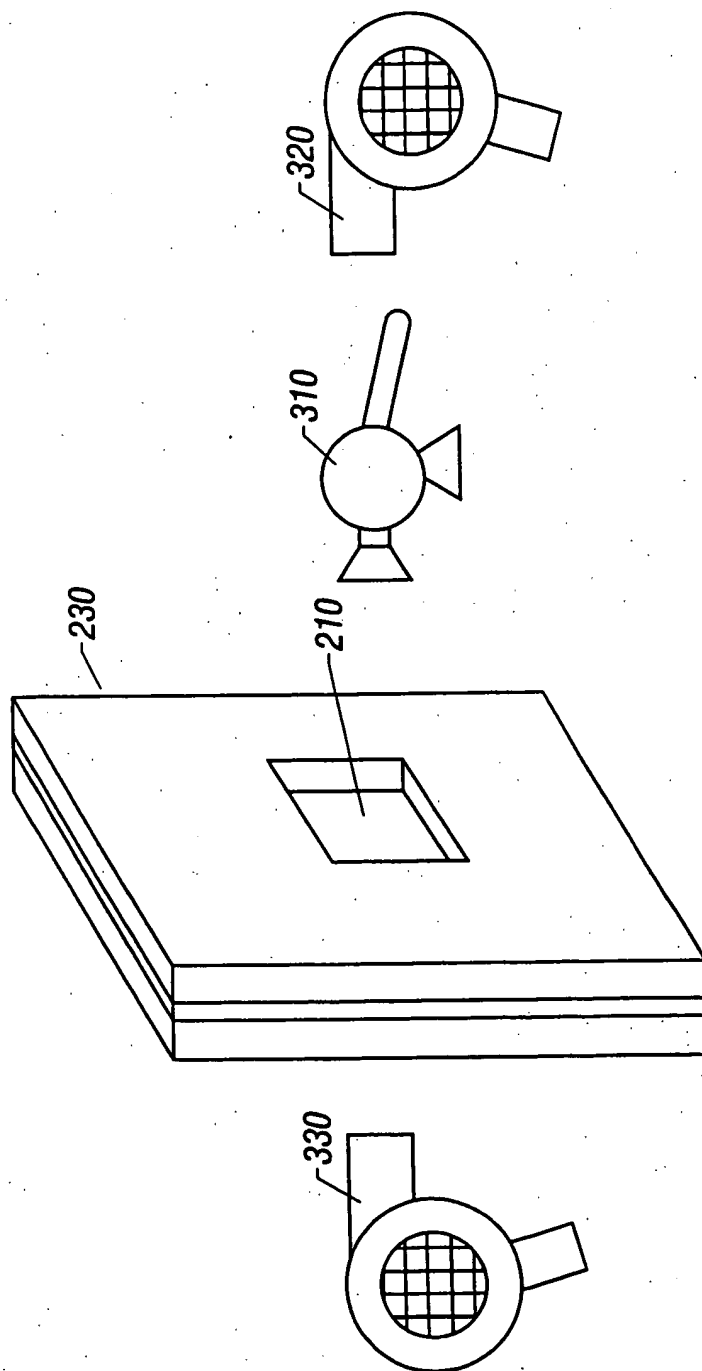


FIG. 3

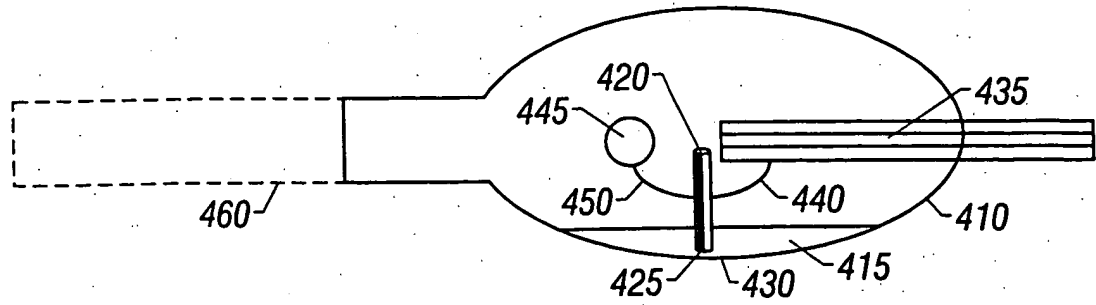


FIG. 4A

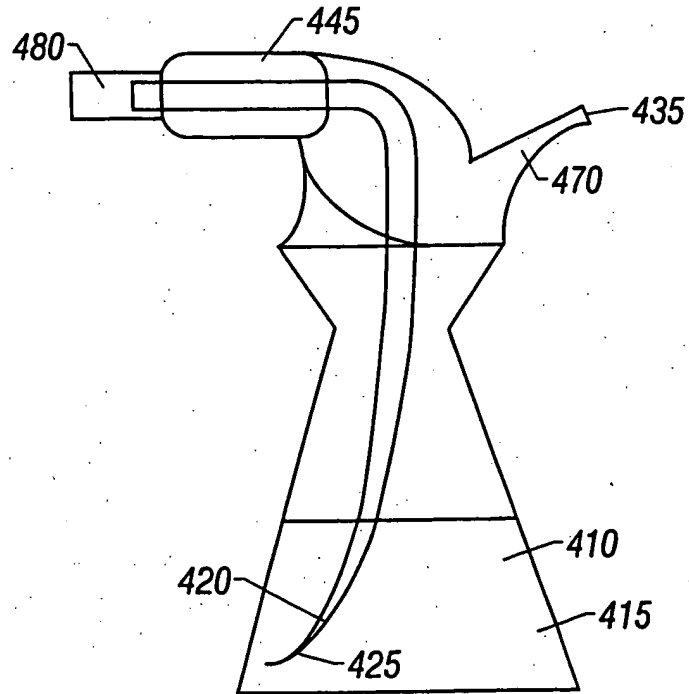


FIG. 4B

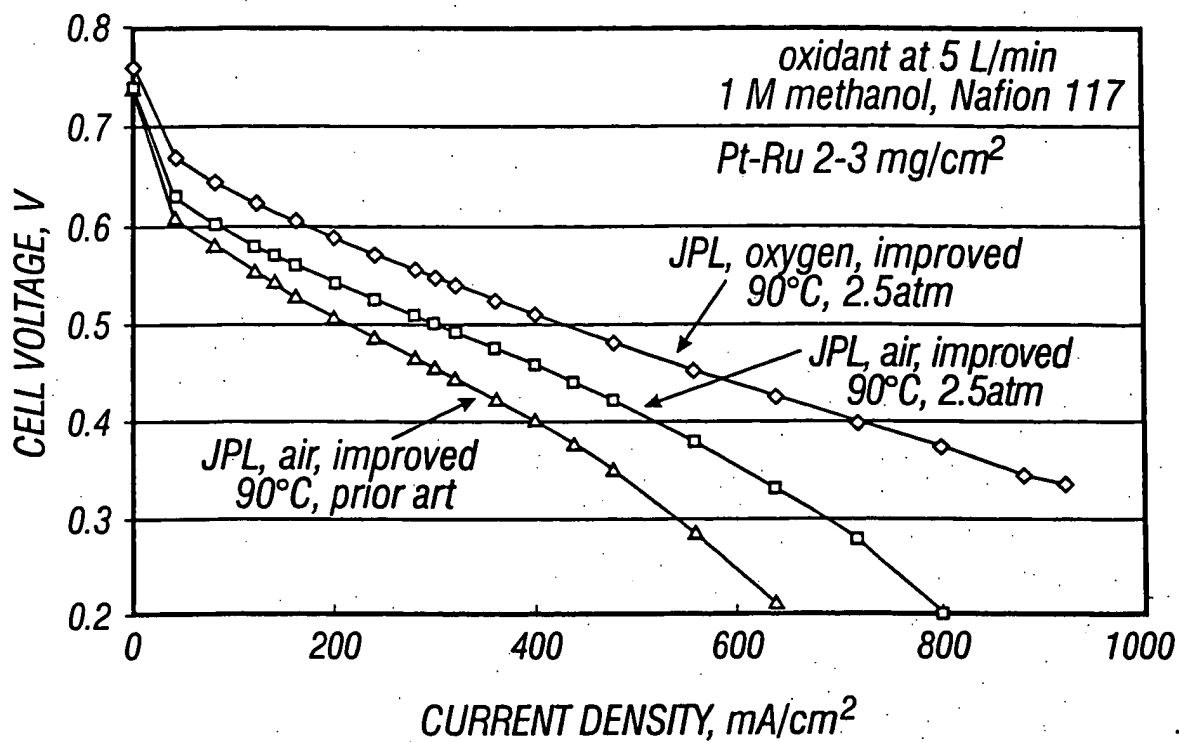


FIG. 5A

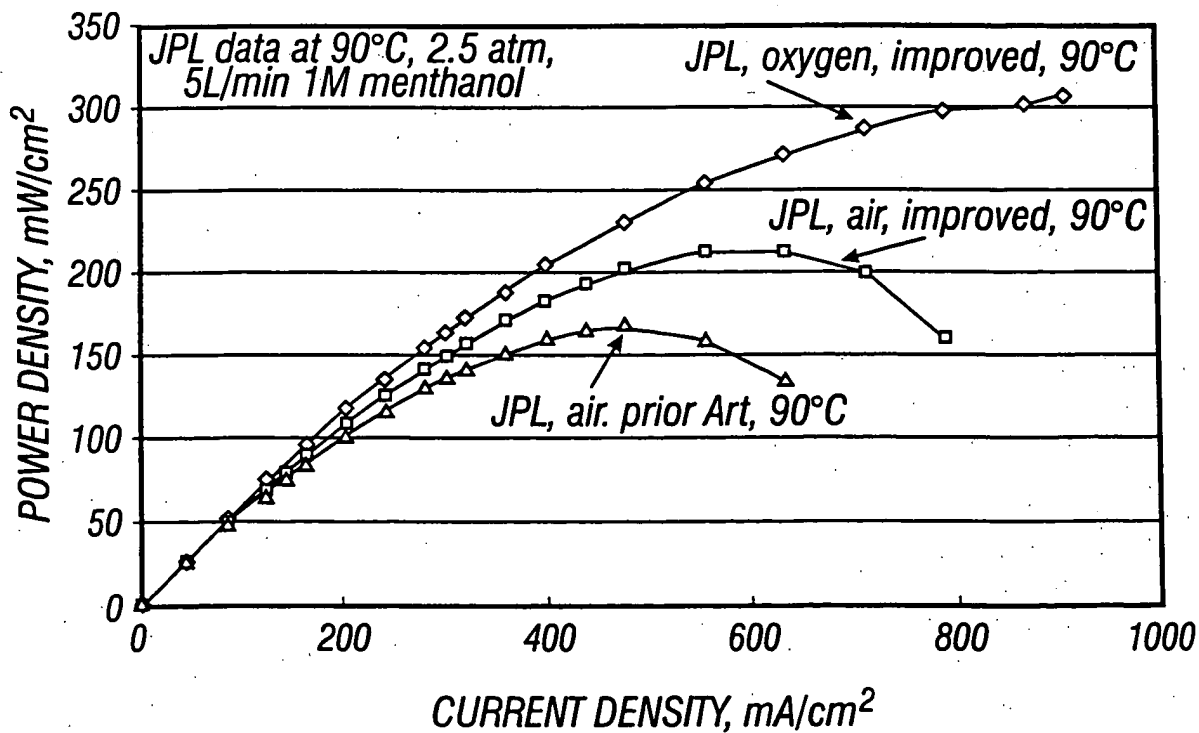


FIG. 5B

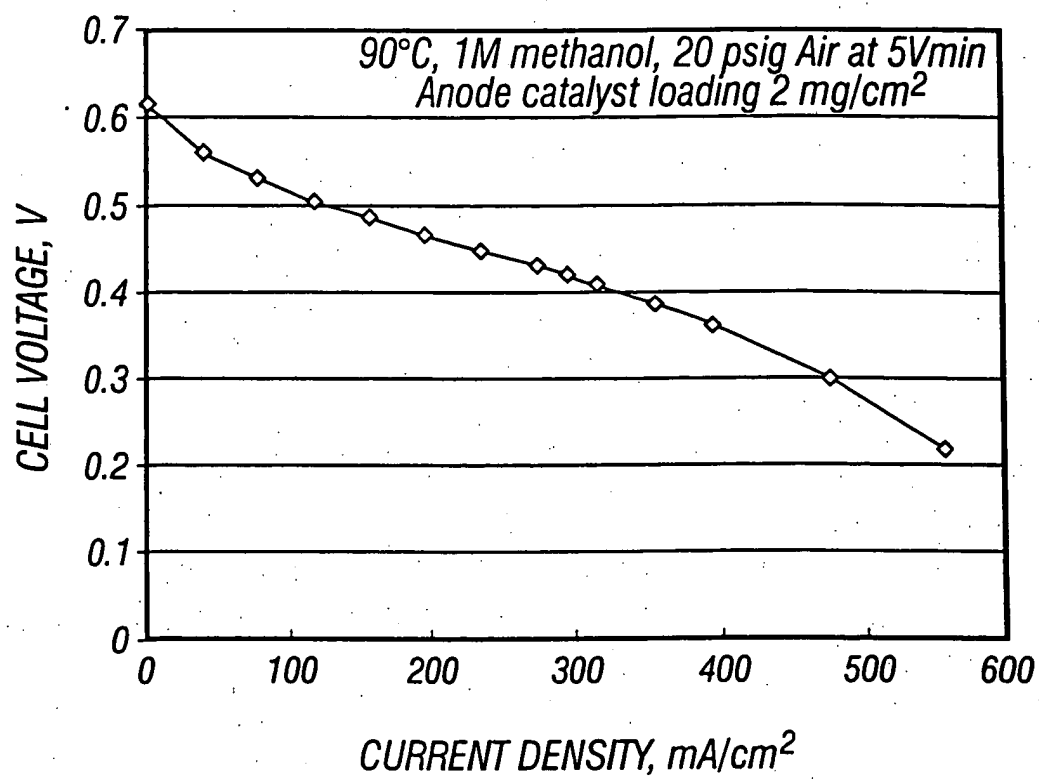


FIG. 6